

Sharing excitement about health and science at the NC Science Festival

By Simone Otto

NIEHS volunteers helped spread awareness and excitement about science and health April 5 at the Triangle SciTech Expo. The expo was held at the North Carolina Museum of Natural Sciences and was one of two events NIEHS participated in during the [2014 North Carolina Science Festival](http://www.ncsciencefestival.org).

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The volunteers promoted science literacy, sparked children's imaginations, and taught the public about science-related careers. By all accounts, this year's events were a huge success.

Located on the main floor of the museum, the NIEHS table saw a lot of traffic. Younger children were especially fascinated with extracting strawberry DNA. Huei-Chen Lao, NIEHS coordinator of K-12 Science Education and Outreach, expertly supervised many of these extractions, engaging youth of every age with questions, and helping them to understand science methodology and its relevance to their lives.

On the other end of the table, participants tested lung capacity, while volunteers graphed the results. Husbands and wives, parents and children, and groups of friends enjoyed trying to outdo each other in lung capacity. Combined with the smoker's lung demonstration, it sparked frequent discussions about smoking and lung health.

The demonstration of a smoker's lung versus a healthy lung, using BioQuest® Inflatable Lungs, attracted the most attention from young and old alike. The youngest made faces and backed away from the smoker's lungs. Others were excited to put on a pair of gloves and feel the lungs inflate and deflate.

"Wow, that is cool!" was the reaction of Jadea, age 5, from Cary, N.C.

Many festival participants came over specifically to see the lungs, either because they were studying the subject in school, or because they knew a smoker and were hoping to convince them to quit. Several former smokers reaffirmed their decision to quit smoking, and a few smokers were shocked enough that they expressed interest in quitting. Quite a few festivalgoers even thanked the scientists for providing this demonstration.

"This is our third year, and the first time doing three activities at once! It was so great, and the lungs were an absolute hit with every age group," said Ericka Reid, Ph.D., NIEHS Office of Science Education and Diversity (OSD) director.

In addition to participating in the Triangle SciTech Expo, NIEHS staff also volunteered at the March 30 Family Science Fair at the Marbles Kids Museum. OSD provided supplies, and NIEHS fellows supplied volunteers for this successful outreach.

"It was very rewarding to see the audience totally engaged in the hands-on activities that we provided," said Lao. "Most importantly, we helped them to realize that science is relevant to daily life."

(Simone Otto, Ph.D., is an Intramural Research Training Award (IRTA) fellow in the NIEHS Ion Channel Physiology Group.)

NIEHS volunteers:

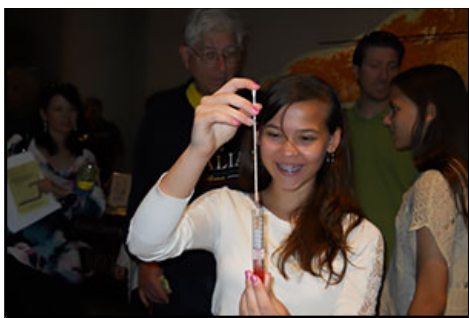
Miranda Bernhardt, Ph.D.
Joanne Damborsky, Ph.D.
Bernd Gloss, Ph.D.
Cathy Jamison
Huei-Chen Lao
Caitlin McDonough, Ph.D.
Simone Otto, Ph.D.
Robert Petrovich, Ph.D.
Ericka Reid, Ph.D.
Alisa Suen, Ph.D.
Misty Thomas, Ph.D.
Erica Ungewitter, Ph.D.



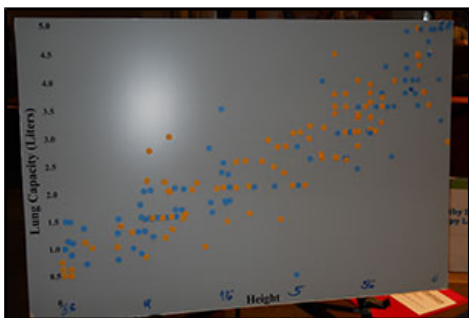
NIEHS volunteer Otto, left, inflates lungs in a demonstration of healthy versus smoker's lungs. The young festivalgoer asked about the differences between the lungs while her parents looked on. (Photo courtesy of Simone Otto)



Extracting strawberry DNA impresses a young participant and his family. (Photo courtesy of Simone Otto)



Many future scientists enjoyed the science of strawberry DNA extraction at the Triangle SciTech Expo. (Photo courtesy of Simone Otto)



Each lung capacity test result was plotted and color-coded for the person's sex. Several hours of testing indicate lung capacity exhibits a linear relationship with height, regardless of the sex of the participant. (Photo courtesy of Simone Otto)



Lao, left, taught an intrigued young girl and her father about DNA, in the strawberry DNA extraction activity. (Photo courtesy of Simone Otto)



NIEHS fellow Ungewitter, left, helped festival participants test their lung capacity - an activity that became surprisingly competitive. (Photo courtesy of Simone Otto)



NIEHS volunteer Damborsky, center, managed the lung capacity activity, while Reid, right, inflated the lungs, demonstrating effects of smoking on lung capacity. (Photo courtesy of Simone Otto)



Earlier in the week at the Marbles Kids Museum Family Science Fair, Thomas, right, helped two young scientists extract strawberry DNA. (Photo courtesy of Hardin Engelhardt)

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